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AUTHOR Heaphey, Lenore, Ed.
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ABSTRACT

While the agenda of the 1960's was one of expansion at maximum feasible speed, the by-words of the 1970's are accountability and its correlates: effectiveness, efficiency, and quality. In statewide university systems accountability is a formidable task. A major difficulty comes from the diversity of goals and disagreement or confusion over measuring the achievement of those goals. Two major aspects of the problem are contradictory perceptions of "who is accountable for what" and actual operation of a system of accountability. There has been a failure in measuring performance and to distinguish and relate input variables, process variables, and output variables. Many previous evaluations by accrediting agencies and external reviewers have tended to focus of the input variables of quality and reputation of faculty, quality of students, and adequacy of resources. This orientation overlooks the impact of a program upon the ultimate success of its students and, of equal importance, it tends to neglect the manner in which teachers and learners interact for some purpose. By delineating and clarifying the evaluation process through the use of a specific checklist confusion can by minimized and areas of agreement can be enlarged. (Author/KE)

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COMMENT

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THE ACCOUNTABILITY CHALLENGE TO HIGHER EDUCATION

THE SUNY EXPERIENCE

Editor's note: With costs per student surpassing income, the accountability of state-financed education programs is of paramount concern for both the legislative and executive branches of government as well as the university itself. As part of an ongoing concern over the development of criteria for evaluating the accountability, efficiency and effectiveness of public higher education, the Center studied this problem in relation to the State University of New York (SUNY). The study was funded by the Institute of Public Policy Alternatives (IPPA), SUNY, which was established to bring university expertise and resources to bear upon problems of significance for New York state government. This COMMENT describes some major aspects of the study; a more detailed report may be obtained from IPPA, 99 Washington Avenue, Albany, New York 12210.

Following an unprecedented period of seemingly limitless, irreversible growth, the mood of American higher education has shifted to one of self-reflection and reassessment. While the agenda of the 60's was one of expansion at maximum feasible speed, the bywords of the 70's are accountability and its correlates: effectiveness, efficiency and quality.

In a statewide university system, accountability is a formidable task. A major difficulty comes from the diversity of goals and disagreement or confusion over measuring the achievement of those goals. For example, the accountability process within the SUNY system involves 72 campuses, university Central Administration, the New York State Division of Budget, the State Education Department, and the legislature. To expect agreement would be utopian; to work for enlarging areas of agreement and minimizing confusion and conflict is not.

It is from this perspective that the Comparative Development Studies Center (CDSC) approached the task of studying the SUNY process of accountability and evaluating efficiency, effectiveness and quality. In addition to an analysis of prevailing concepts from relevant literature, the Center's objective was to identify suitable criteria and recommendations from participants in the process. This was done chiefly through the use of questionnaires and intensive interviews with 43 officials from all levels of university governance.

This COMMENT features two major aspects of the study: section one presents an analysis of the contradictory perceptions of "who is accountable for what" in New York higher education, discusses various interinstitutional accountability roles, and highlights some of the recommendations designed to mediate among opposing perceptions and roles. Section two explores the problems of actually operating a system of accountability through the evaluation of efficiency, effectiveness and quality, and offers a checklist of evaluation criteria. The checklist is an attempt to clarify and relate the variables of performance evaluation.

ACCOUNTABILITY: AUTHORITY ROLES

Accountability is a protean word. For purposes of this study it was broadly defined as: **those practices, policies and procedures by which a public higher educational system demonstrates its legitimacy and value as a state-supported enterprise.** It is the system by which a public university indicates to the citizens and their elected and nonelected representatives the appropriateness of its goals, the effectiveness and quality of its programs, and the efficiency of its operations in providing service to the state.

In New York accountability is characterized by numerous levels of control and review and a wide degree of confusion and conflict over appropriate responsibilities. For example, many of the individuals contacted in the study complained about the extent of detailed fiscal controls exercised by the Division of Budget (DOB). They were also critical about the impact of the State Education Department's policies on the individual campuses of the SUNY system. Officials from DOB and the State Education Department, in turn, defended their policies and argued that their impact on SUNY would be lessened if SUNY, and SUNY Central Administration in particular, would exercise more effective control over the system.

SUNY Central Administration occupies a particularly critical and difficult position in the accountability system. On the one hand, it is expected to

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act as an agent of state government, clarifying and implementing state policies and priorities. The campuses, on the other hand, believe that Central's role should be that of a spokesman for the campuses, communicating campus needs to state authorities, protecting the campus from direct state intervention, and acting as a mediator between the campus and the state. In practice, Central Administration attempts to fulfill both sets of conflicting expectations, but is not seen as performing either role. This tension between accountability to the state and responsiveness to campus needs may be characteristic of the central administration of any multicampus university system.

The individuals interviewed from Central Administration indicated that SUNY defines itself as a single university with multiple campuses rather than a confederation of semi-autonomous universities. This definition is based on the belief that the SUNY Board of Trustees and Central Administration exercise centralization for policy development but allow campus autonomy for policy implementation and day-to-day administration. Much of the evidence gathered in our study would tend to question the accuracy of this conception. For example, Central administrators were the only participants to refer to this division of centralized policy and decentralized implementation. Comments and criticisms from the campuses, as well as from agencies external to SUNY, suggest that there is not sufficient decentralization and flexibility in the area of campus operations and policy implementation. Many specifically mentioned inadequate leadership from Central administrators in developing broad policy and setting parameters within which the campuses may operate with relative autonomy. In fact, several indicated that Central Administration's accountability to the state should begin with defining the objectives and missions of the system and clarifying SUNYwide policies and those of the external agencies. Moreover, campus respondents often described Central's performance as that of a line agency rather than a central coordinating staff and criticized its conflicting policies and lack of decisiveness.

Some respondents from Central Administration defined their role as that of campus advocate--negotiating budget requests with DOB and the legislature, providing political antennae for the campuses (keeping campuses informed of developments in the legislature and DOB), and fighting for program approval. They also viewed Central's role as the processors and providers of data relevant to campus management needs. The campuses, however, indicated that Central should become more active in protecting campuses from excessive fiscal entanglement with DOB and from perceived threats to autonomy by the State Education Department. They were also critical of the lack of adequate information sharing, its usefulness, and the extent to which Central Administration informed them of the ultimate use of data requested.

In addition, respondents from the external review agencies had another conception of Central Administration. They criticized Central for being too sensitive to campus autonomy, for being protective of the campuses, for failing to make "hard-nosed" decisions regarding program elimination and the denial of campus program requests, and for generally following a bottom-up rather than top-down management philosophy.

Given these conflicting demands and contradictory assessments of Central Administration, it would appear that Central cannot satisfy the expectations of all decision-making levels. Several respondents pointed to the surprising degree of hostility and suspicion between the campuses and Central Administration and the external review agencies.

Some element of conflict between Central Administration and the campuses, and Central Administration and external authorities is inevitable. Conflict is endemic to a statewide educational system since the various interests (students, faculty, administrators, legislators, the Regents, and special interest groups) have a stake in the decision-making process, and they all approach the same issues from differing institutional needs and perspectives. Moreover they have differing conceptions of what accountability to the state should mean. For example, in response to a query for specific ways the campuses should be held accountable to the state, we noted significant differences in perceptions between the campus respondents vis-à-vis the respondents from Central Administration and the external review agencies. Campus respondents tended to define accountability in terms of programs, services, or activities; while Central and external respondents defined it in terms of processes. In the area of fiscal accountability, for instance, campus respondents defined accountability by reference to broad statements about program quality. Respondents from Central Administration, DOB and the legislature, on the other hand, tended to define accountability in terms of the budget process. While campus personnel defined accountability abstractly, other respondents made frequent references to specific responsibilities, reporting relationships, and mechanisms of coordination. Noncampus respondents often cited the state's master planning process as a defining characteristic of accountability. This process was not mentioned by any campus respondents, which may give indirect evidence as to why the educational planning process has not been very effective in New York state.

In addition, there was a tendency to place the responsibility for weaknesses in the accountability process at a level different from the respondent's. In the area of establishing institutional goals, for example, Central Administration criticized the campuses for not being more explicit in goal articulation as campus planning documents seldom go beyond broad statements of purpose. Campus respondents,

as stated earlier, criticized Central Administration for not clearly setting the overall mission of the system and providing parameters within which the campus can plan; and, in turn, some respondents from Central Administration, as well as the campuses, called upon the state to set more clearly the parameters for public higher education in New York.

RECOMMENDATIONS

In order to mediate among these conflicting expectations and assessments of the SUNY governance system and more clearly delineate responsibilities and demonstrate accountability, several changes in policy, systemization and procedure are required. Some of the study's policy recommendations for effecting such changes are outlined below.

In terms of the relationship between SUNY Central Administration and the campuses it was recommended that:

- Central Administration articulate a specific mission statement which spells out the operational implications of its philosophy of centralized policy with decentralized implementation.

- Central Administration develop "Central Administration internships" for campus administrators to improve communication and commonality of concept.

Regarding SUNY's interface with external agencies it was recommended that:

- Central Administration and the Division of the Budget jointly plan and establish annual policy studies of systemwide concern, to be conducted by either, partly or jointly, where appropriate.

- The State Education Department and Central Administration develop a procedure for the conduct of doctoral program evaluations and on-site consultant visitations for which SUNY would have the primary responsibility.

- The fiscal and program committees of the legislature conduct interim studies and gather information on SUNY issues of statewide significance such as the utilization and cost effectiveness of educational technology, and the adequacy of statewide student financial aid programs.

In the area of planning, the study suggested the following recommendations:

- That campus master plans provide more delineated statements of mission in terms of specific programs and objectives upon which the campus intends to focus its efforts and concentrate its resources.

- That campuses implement systems of internal goal setting and self-evaluation for planning purposes.

- That Central Administration establish a performance auditing staff to conduct reviews of plan implementation and provide technical assistance to the campuses for planning and base budget review.

To improve Central's capacity to measure campus performance, provide maximum campus flexibility and establish commonly understood criteria for program review and post audit, it was recommended that:

- SUNY develop a procedure for the submission of a programmatic budget justification narrative which includes statements of goals and objectives, descriptions of prior accomplishments and informal criteria for the evaluation of goal achievement.

- There be further development of a NCHEMS* based cost per program methodology and the setting of ranges and standards for SUNY program costs for purposes of program planning and internal resource allocation.

ACCOUNTABILITY EVALUATION: EFFICIENCY, EFFECTIVENESS, QUALITY

In addition to clarification of accountability roles, a system of accountability requires clarification of measuring performance. In higher education performance is judged in terms of efficiency, effectiveness and quality. Each of these concepts is difficult to measure, and indeed they are often addressed on the basis of proxy measures or intuitive criteria. A second difficulty is that efficiency is often viewed as incompatible with a commitment to quality. Finally, effectiveness is often confused with efficiency by individuals for whom efficiency is a primary criteria, or confused with quality by those who reject the legitimacy of efficiency as it applies to university programs.

These ambiguities stem from the relative priority given to each by the various levels of university governance. For example, the New York state external authorities seem committed to efficiency considerations as they express the need for more objective measures of university performance based on cost factors. SUNY respondents, on the other hand, tended to emphasize considerations of effectiveness and quality. Indeed, some university respondents argued that efficiency criteria are not applicable to university activities and they preferred the concept of effectiveness. In addition, there was disagreement as to whether specific items used in the study's questionnaire were efficiency or effectiveness or quality criteria.

This confusion over meanings and relative priorities is another illustration of the competing conceptions of what a public university should be. In New York, as in other states, there is a multiplicity of languages among participants in the governance pro-

*NCHEMS is the National Center for Higher Education Management Systems that has developed an educational cost analysis system (IEP) which allows colleges and universities to identify direct and indirect instructional costs by academic program using standard methodologies and accounting procedures. SUNY is completing a pilot implementation of a NCHEMS-based cost analysis system.

cess. There are many assumptions based on conventional wisdom about the relationships of efficiency, effectiveness and quality, such as the notion that quality is generally associated with high cost, or that high levels of investment will somehow directly result in quality. This appears to be the case in New York, as well as nationally.

Our study attempted to analyse the meanings of these concepts, chart their interrelationships, and discuss problems in their application. The objective was to set the tone for the emergence of a consensus by SUNY and state governmental reviewing authorities on the meaning of terms, and encourage the development of a set of working definitions for efficiency, effectiveness and quality.

As an applied term, efficiency can be defined as the relationship of cost to units of production. But both cost and production present difficulties. The units of production are preferably units of output, but there is currently no adequate consensus on educational outputs, much less on means of measuring these outputs. In practice, proxy measures are employed which tend to identify units of input such as student/faculty ratios, cost per student, cost per faculty member, cost per square foot of useable space and so on.

Some respondents to our study criticized efficiency as requiring too narrow a focus on costs. Since higher education is labor intensive, savings in cost must be achieved by savings in labor which is generally assumed to have a detrimental effect on quality. Ideally, however, cost or efficiency should be only one of several criteria for decision making. In this view, cost data are neutral and inform choice rather than supplant human judgment.

This broader understanding of choice or judgment requires an understanding of effectiveness. Effectiveness can be measured by the degree to which an organization or program achieves its goals[1], and must be determined by specified criteria or established standards of some kinds[2]. Thus, effectiveness of an educational activity cannot be determined exclusively on the basis of cost but requires a set of objectives or goals, or more broadly, a sense of purpose.

There is a meeting ground between efficiency and effectiveness such as the notion of cost effectiveness which blends both considerations. Cost consciousness goes beyond budget consciousness. It considers how hired faculty and enrolled students interact for some purpose[3]. Cost effectiveness relates to the setting of priorities among competing choices for which both cost (efficiency) and the compatability of program design with objectives and broader societal needs (effectiveness) serve as criteria.

Quality in higher education is more difficult to define than it is to recognize. That is to say, no one would deny its presence or absence in various situations even though we might disagree on how to measure it. Whereas effectiveness can be identified in terms of goal achievement and the corresponding criteria for goal achievement can be objectively specified in the initial goal description, quality is a very relative and ultimately subjective attribute. There are great ambiguities and subtleties surrounding it.

In practice our study indicated that both respondents from the SUNY system and those from external agencies often used quality and effectiveness interchangeably. Judgments of effectiveness often implied judgments about academic quality since effectiveness was often viewed as achieving certain quality standards. Similarly, formulations of quality often paralleled the criteria used for the evaluation of effectiveness. Conceivably, however, a quality program as defined by traditional standards of academic excellence and measured by scholarly reputation of faculty and significance and volume of published research, may not be deemed to be effective in terms of economies of scale, complementarity with other university programs, efficiency as measured by the cost per completed degree, or responsiveness to a changing market for Ph.D.'s. On the other hand, an educational program may be deemed to be effective in meeting certain limited objectives, without achieving other absolute standards of academic quality.

The relationship between quality and efficiency is also, our study indicated, interdependent. Strictly speaking quality cannot be measured, but it can be compared[4]. It is widely assumed that there is a direct relationship between quality and cost, or conversely that quality decreases as efficiency increases. Upon closer analysis, this relationship is far more complex and the evidence is mixed.

One indicator which is used for budgeting purposes and for quality comparisons in New York is the student/faculty ratio. A national study of graduate programs indicated that there is a strong positive relationship between faculty/student ratios and program quality as measured by Cartter's study of quality in graduate education and the numbers of Woodrow Wilson fellows entering each institution. This relationship was stronger in private universities than for public universities, however[5]. Studies have also revealed a wide variation in faculty/student ratios among similar types of institutions, and among institutions of similar quality[6]. This is due to the fact that existing ratios are in large part a result of unplanned historical evolution and the result of an internal competition for resources and the availability of outside resources to various departments and programs. Consequently, the Carnegie Commission staff concluded that it is unlikely that overall faculty/student ratio in any given institution is optimal[7]. This also indicates that the relationship of student/faculty ratios to program quality is not direct since wide variations exist within the same leagues of quality programs. There are, however, apparent relationships between program size, program

quality and efficiency. In general, the graduate programs that are rated high on the Cartter rankings of quality tend to be the larger programs which, in turn, are also more efficient due to economies of scale[8].

Even this relationship can be challenged, however. Powel and Lamson performed regression analyses on data drawn from graduate programs nationally to test the effects of program size and program quality (as measured by national ratings) on unit costs. They reported mild indications of some economies of scale (larger programs had lower unit costs), but there were also some indications that higher quality programs tended to have higher unit costs (as measured by direct instructional costs per FTE graduate student)[9].

Program costs vary widely, quite independent of quality standards or type of institution. The Powel and Lamson study of masters and doctoral programs showed that on a discipline-by-discipline basis the range in costs from the lowest cost program to the highest was often a difference of 300 to 400 percent[10]. Another study by McKinsey and Company revealed wide variations in costs per student among institutions of similar quality[11]. This would indicate that there are wide differences in unit costs (as well as faculty/student ratios) which cannot be explained solely by differences in quality.

A working formula of evaluation can be suggested that views efficiency, effectiveness and quality as interdependent variables:

$$\text{Effectiveness} = \frac{\text{Output}}{\text{Cost}} \text{ (efficiency) plus quality standards}^{12}.$$

Under this formulation cost is seen as an input variable, effectiveness is measured in terms of outputs, and quality standards are viewed as an intervening variable. The effectiveness of New York higher education can then be defined as the condition in which outputs are achieved efficiently, that is, within a tolerable limit of unit costs conforming to predetermined goals that include standards of quality.

Checklist of Criteria

As the above indicates there has been a failure in measuring performance to distinguish and relate input variables, process variables, and output variables. Many previous evaluations by accrediting agencies and external reviewers have tended to focus on the input variables of quality and reputation of faculty, quality of students, and adequacy of resources. This orientation overlooks the impact of a program upon the ultimate success of its students and, of equal importance, it tends to neglect the manner in which teachers and learners interact for some purpose. For example, rather than focusing on the adequacy of library resources, the concern should be with how well these resources are used. Consequently, the following checklist[13] categorizes the criteria and indicators in terms of the three variables of input, process and output.

There has also been a tendency to blur the distinction between general criteria and the specific indicators designed to inform those criteria. For that reason the checklist is an attempt to differentiate where possible between criteria and indicators.

The checklist can also provide a guide for review of SUNY undergraduate programs as well as graduate programs, with the following exceptions. There tends to be a higher degree of mutual dependence among undergraduate programs. Consequently, the criteria of program compatibility and interdependence are probably more critical at the undergraduate level than at the graduate level. Second, criteria such as research productivity of faculty and students and responsiveness of programs to specific employment conditions are more relevant to graduate than to undergraduate programs.

The program review criteria and indicators are offered as a basis for the SUNY governance system to work toward consensus in its method of evaluating efficiency, effectiveness and quality. By delineating and clarifying the evaluation process, the checklist can help to minimize confusion and enlarge the areas of agreement in operating a multi-campus system of accountability.

Leif Hartmark
Project Coordinator

NOTES—

1. Amatai Etzioni, **Modern Organizations**, (Englewood Cliffs, NJ: Prentice Hall, 1964).

2. Cameron Fincher, "Planning Models and Paradigms in Higher Education", **Journal of Higher Education**, Vol. XLIII, No. 9, December 1972, p. 759.

3. Frank Newman, **Report on Higher Education** (U.S. Gov't. Printing Office, Washington DC, 1971) Chapter 7.

4. Alan Cartter, "An Assessment of Quality in Graduate Education" (Washington DC, American Council on Education, 1966) p. 4 and "Assessing Quality in Graduate Education," **Science Education**, Vol. 50 No. 3, April 1966, p. 252.

5. R. Radner, "Faculty-Student Ratios in U.S. Higher Education" in **Education as an Industry** (National Bureau of Economic Research, cited in Carnegie Commission on Higher Education, **The More Effective Use of Resources** (New York: McGraw Hill Book Company, June 1972) p. 23.

6. Radner, op. cit., and Carnegie Commission, op. cit., p. 63.

7. Carnegie Commission on Higher Education, op. cit., p. 64.

8. Regents Commission on Doctoral Education, **Meeting the Needs of Doctoral Education in New York State**, Albany, New York, January 1973, p. 30.

[*Continued on page 8*]

CHECKLIST OF SELECTED CRITERIA AND INDICATORS FOR QUALITY ASSESSMENT AND PROGRAM REVIEW

Variable	Criterion	Indicator
A. Input		
1. Faculty	Quality	-Faculty membership in professional associations, honorary societies, editorial boards, other professional leadership positions -Faculty participation in peer review of nationally competitive grant proposals -Outside consultancies -Evaluation of faculty by outside consulting agencies (federal, state, regional) -Faculty honors and awards
	Reputation	-Peer evaluations -Reputational analysis -Anderson-Cartter graduate ratings
2. Students	Quality	-Entering student scores on standardized tests -Grade point averages -Rank in class, former educational institution -National fellowships held -Trends in entrance standards -Faculty assessment of students' probability of successful degree completion
3. Financial Resources	Adequacy of Financial Support	-Total program budget (state and non-state funds) -Ratio of non-state to state funds -Median and range in faculty salaries -Competitive position of salaries compared to departments in comparable institutions -Number of "stars" who were recruited away compared to number of "stars" brought in from outside -Organized research or public service centers or institutes -Average competitive extramural funds attracted per faculty member -Level of financial support for students
4. Physical Resources	Adequacy of Physical Plant	-Net assignable square feet per faculty member -Relative isolation/integration of facility from university programs and services -Adequacy of study space, contact offices, laboratory space and equipment, computing facilities, etc.
5. Supporting Services	Adequacy of Library	-Total number of holdings in field -Rate of acquisitions -Access to materials -Interlibrary loan and computerized networks
	Computing Facilities	-Access to computing time -Cost of computing time -Efficiency in terms of extent of utilization and competitiveness of cost -Quality and capacity of hardware -Versatility of programming capability
	Media Services and Educational Technology	-Extent of utilization -Extent of media assisted curriculum development
	Department Support	-Clerical personnel per FTE faculty, per FTE student -Access to and adequacy of departmental services
	Supporting Disciplines	-Existence of quality programs in related disciplines

CHECKLIST [continued]

Variable	Criterion	Indicator
B. Process	Faculty Workload	-Student access to senior professors -Faculty teaching load -Faculty advisement load
	Efficiency	-Cost per student year -Cost per completed degree -Average length of time required for completion of degree -Number of graduates per year -Total costs to the student per degree
	Pedagogical Methods and Content	-Extent of instructional innovation -Degree to which course content and research reflects the cutting edge of the field
	Program Interaction	-Reciprocal contributions to and from related disciplines and programs on campus -Data on student flow among programs -Extent of interdisciplinary instruction and research
	Morale	-Student morale (interviews) -Faculty morale (interviews)
C. Output	Faculty Research	-Publication count, citation indices -Caliber of publications in which faculty research appears -Judgments of importance of the research by peers, state and national policy-study commissions or other external agencies
	Student Research	-Student participation in faculty research -Student research publications -Quality of dissertations as judged by external peer reviews of dissertations in the field
	Success of Graduates	-Graduate placement -Starting salaries of graduates of professional/occupational programs -Surveys of employer satisfaction with graduates -Graduate's career records after 5, 10 years
	Educational Outcomes	-Student value added (e.g. ratios of student test scores on achievement tests upon entrance and graduation) -Surveys of expectations of entering students compared to surveys of student satisfaction upon graduation
	Program Vitality	-Program enrollment trends compared to changes in national and regional manpower needs -Success of graduates in adapting to alternate career opportunities for Ph.D's in government and industry

NOTES [*cont.*]

9. See J. H. Powel and R. D. Lamson, **Elements Related to the Determination of Costs and Benefits of Graduate Education**, Washington, DC: Council of Graduate Schools, 1972; J. L. McCarthy and D. R. Deener, **The Costs and Benefits of Graduate Education: Commentary with Recommendations**, Washington, DC: Council of Graduate Schools, 1972. For a discussion of these and similar studies and a presentation of the Powel and Lamson cost data on graduate programs see Frederick E. Balderston, **Managing Today's University** (San Francisco: Jossey-Bass Publishers, 1974) pp. 164-77.

10. Balderston, op. cit., p. 175.

11. McKinsey and Company, **The Twelve College Cost-Quality Study** Washington, DC, 1972, cited in Carnegie Commission, op. cit., p. 45.

12. This formulation is based on a definition of productivity presented by Walter Balk in "Fundamental Concepts and the Measurement of Productivity," **Administering State Government Productivity Improvement Programs**, Ford Foundation Productivity Research Project for State Government, Albany, New York, September 1974.

13. The checklist is based upon our research and an analysis of several approaches to program review including the New York State Regents doctoral review; the SUNY guidelines for graduate program review; the University of California-Berkeley doctoral program review; the Princeton University Priorities Committee; and checklists suggested by Frederick Balderston. For the basic approach and guidelines of the Regents, SUNY, and the University of California at Berkeley see Regents Commission on Doctoral Education, op. cit. pp. 30, 65-72. For a discussion of the Princeton criteria and additional considerations for program review see Frederick E. Balderston, op. cit., pp. 264-69, 283-87.

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STATE UNIVERSITY OF NEW YORK AT ALBANY
MOHAWK TOWER 1207
1400 WASHINGTON AVENUE
ALBANY, NEW YORK 12222

Director: James Heaphey
Associate Director: Abdo Baaklini
Editor: Lenore Heaphey

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Dept. of Higher Education
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